INSTITUTE OF PUBLIC HEALTH

COLLEGE OF MEDICINE AND HEALTH SCIENCES

UNIVERSITY OF GONDAR

PERSONAL PROTECTIVE EQUIPMENTS UTILIZATION AND ASSOCIATED FACTORS AMONG TEXTILE FACTORY WORKERS IN HAWASSA TOWN, SOUTHERN ETHIOPIA

BY: TEMESGEN KELAYE (BSC)

ADVISORS:

1. **SEBSIBE TADESSE (BSC, MPH)**
2. **YALEMZEWOD ASSEFA (BSC, MPH)**

A THESIS SUBMITTED TO INSTITUTE OF PUBLIC HEALTH, COLLEGE OF MEDICINE AND HEALTH SCIENCES, UNIVERSITY OF GONDAR, IN PARTIAL FULLFILLMENT OF THE REQIEREMENTS FOR THE DEGREE OF MASTERS OF PUBLIC HEALTH IN OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT

JUNE, 2014

GONDAR, ETHIOPIA

Institute of Public Health

College of Medicine and Health Sciences

University of Gondar

Personal Protective Equipments Utilization and Associated Factors among Textile Factory Workers in Hawassa Town, southern Ethiopia

By: Temesgen Kelaye (BSc)

Address: Tele: +251-917199604

E-mail temesgenkelaye@yahoo.com

Advisors:

1. Sebsibe Tadesse (BSc, MPH) ---------- ----------
   Signature Date
2. Yalemzewod Assefa(BSc, MPH) ---------- ----------
   Signature Date

Approved by the Examining Board:

---------- ---------- ----------
Director, Institute of Public Health Signature Date

---------- ---------- ----------
External Examiner Signature Date

---------- ---------- ----------
Internal Examiner Signature Date

Acknowledgement

I would like to thank University of Gondar, College of Medicine and Health sciences, Institute of Public Health, for their financial support to undergo this research report. Also I wish to thank the Southern Nations Nationalities and Peoples Regional State Agency of Labor and Social Affairs for logistic and administrative support.

I am extremely grateful expressing my heartfelt appreciation and thanks to my advisors Mr. Sebsibe Tadesse and Mr. Yalemzewod Assefa who have given me unreserved advices and constant follow up from the start to the completion of this thesis work.

My heartfelt thank also goes to data collectors, supervisors and the study participants for their devotion to be involved in this research.

Finally I wish to express my deepest feeling to my families for their encouragement and multiple supports throughout the study.

Acronyms

AOR	Adjusted Odds Ratio
CI	Confidence Interval
COR	Crude Odds Ratio
ILO	International Labor Organization
OHS	Occupational Health and Safety
PPEs	Personal Protective Equipments
SNNPRS	South Nations Nationalities and People Region State
SPSS	Statistical Package for Social Science

Table of contents

Contents **page**

List of tables page

List of figures page

Abstract

Background: Use of personal protective equipments is often the only line of defense against occupational hazards in developing countries. However, there is a dearth of studies clarifying the condition. The present study has determined the magnitude of personal protective equipments utilization and identified associated factors among textile factory workers in Hawassa Town, southern Ethiopia.

Methods and materials: An institutional-based cross-sectional study was conducted among textile factory workers in Hawassa town, southern Ethiopia from January to March 2014. Stratified sampling followed by simple random sampling techniques was used to select the study participants. A pre-tested and structured questionnaire and observational check list were used to collect data. Bivariate and Multivariate analyses were employed to see the effect of each explanatory variable on dependent variable.

Results: The magnitude of personal protective equipments utilization was 82.4% [95%CI: (79.5, 85.3)]. Service duration of >10 years [AOR: 0.20, 95%CI: (0.07, 0.50)], availability of personal protective equipments [AOR: 21.47, 95%CI: (8.61, 53.5)], shift work [AOR: 2.23, 95%CI: (1.09, 4.55)], drink alcohol [AOR: 0.25, 95%CI: (0.10, 0.65)], smoke cigarette [AOR: 0.20, 95%CI: (0.05, 0.78)] were factors significantly associated with utilization of personal protective equipments.

Conclusion: In this study showed that the magnitude of personal protective equipments utilization rate was high. Interventions to promote personal protective equipments utilization should focus on areas of significant variable, such as service duration, availability of protective equipments, presence of shift work, and substance use.

Keywords: Personal protective equipments; Textile factory; Workers.

1. Introduction

1.1. Statements of the problem

Work is one of the central elements of human life. It gives safety, security and makes life meaningful [1] . In the 21st century World Health Organization seated priority setting for health promotion in the workplace [2]. Sometimes there is simply no way for a worker to avoid spending time in a dangerous atmosphere, doing a job in a loud environment, or being exposed to other conditions that could cause an occupational injury[3, 4].

In 2012 the McKinsey Global Institute estimated *2.9* billion labor forces in world. Among those National Institute of Occupational Health and Safety estimated only 20 million workers use PPEs on a regular basis to protect them from job hazards and to avoid dangerous working conditions [5, 6]. International Labor Organization (ILO) estimated 2.34 million deaths, more than 270 million occupational accidents, and 160 million work-related diseases occur every year. As a result of these, there is an estimated economic loss of more than $1.25 trillion each year which is equivalent to 4.0% of the world's Gross Domestic Product. This loss is 4 times higher for developing countries than that of industrialized countries [7, 8].

Textile industry is one of labor intensive production and most technologically complex of all industries [9] and a place of work where workers are exposed to different safety hazards like cotton dust, excessive noise, accidents and diseases [10-13]. As result of this, workers, employers and government lost direct and indirect costs related to workplace injuries and illnesses [14]. Direct costs for employers include compensation costs that has to be paid to the disable workers and payment for treatment of workers disabled on job, and while the indirect cost include production disturbance costs, lost time of injured worker, time lost by supervisors or executive to follow the injured worker, training costs for new worker [15, 16]. Direct costs for workers include pain and suffering from the injury or illness, loss of income, loss of a job and health-care costs, and while the indirect costs for workers include time lost by family members to care the disabled worker and utmost economic shock and social chaos [17].

Utilization of personal protective equipments (PPE) is one of the most important measures to safeguard workers from exposure to occupational hazards, especially in

developing countries where PPE might often be the only line of defense against hazards [18]. Workers often need to wear personal protective equipments (PPE) to be protected from injury, illness and death caused by exposure to workplace hazards [18-21]. Workers use of PPE is affected by socio-demographic, behavioral and work environment factors [22-24].

There is a dearth of studies clarifying about situation of PPE utilization among textile factory workers in most of Subsaharan African countries like Ethiopia. This paper presented the findings of a study which investigated the magnitude of PPE utilization and associated factors among textile factory workers in southern Ethiopia, a low-income country in East Africa. The study will fill a critical gap in understanding PPE utilization in Ethiopia and contributes to the growing workplace safety research in low-income countries. Such studies may also help in developing evidence-based interventions to improve workers safety.

1.2. Literature review

1.2.1. The magnitude of PPE utilization

The study conducted among textile mill workers in Pakistan show that the magnitude of PPE utilization to be 40.2% [25]. Another studies conducted among textile garment factory workers in India show 12 - 49.4% PPE utilization [19, 26].

Study conducted among textile factory workers in Egypt reveals 31.4 - 67.5% use of PPE [15, 27]. The study conducted among textile factory workers in Nigeria show 41.4% use of PPE[23]. Another study conducted among textile factory workers in Botswana show 16.7% use of PPE [28]. In the case of Ethiopia, studies show 49.3 - 75.3% use of PPE [29, 30]

1.2.2. Factors associated with PPE utilization

Various factors, such as socio-demographic, work environment, and behavioral, affect PPE utilization among textile factory workers [30].

Socio-demographic factors

The educational status interference was significant and its results had drastic improvement in workers' knowledge and compliance with the use of PPE [22]. PPE Utilization was also associated with duration of occupation, awareness of the work hazards, and knowledge about the purpose of PPE utilization [19, 26]. There is significant difference in use of PPE among textile factory workers by gender [30, 31]. Age is also found to influence PPE utilization [19, 24].

Working environment

Working environments are associated with PPE utilization by interfering with job performance, and lowering the person's motivation to wear PPE and create discomfort [31]. Also, unsafe working section, lack of promotion, safety instructions, presence of health and safety inspection, and programs on prevention, awareness creation and capacity building are factors found to affect PPE utilization among the workers [32]. The reasons stated by the workers for non-usage of PPE are lack of PPE, and lack of safety training[28, 30].

Behavioral factors

Literatures reveal that alcohol drinking, khat chewing, and cigarette smoking are factors associated with PPE utilization among textile factory workers [24, 32-34]. Besides, sleeping disorder, and job satisfaction also have been shown to have significant association with PPE utilization among the workers[26, 31] .

1.2.3. Conceptual framework

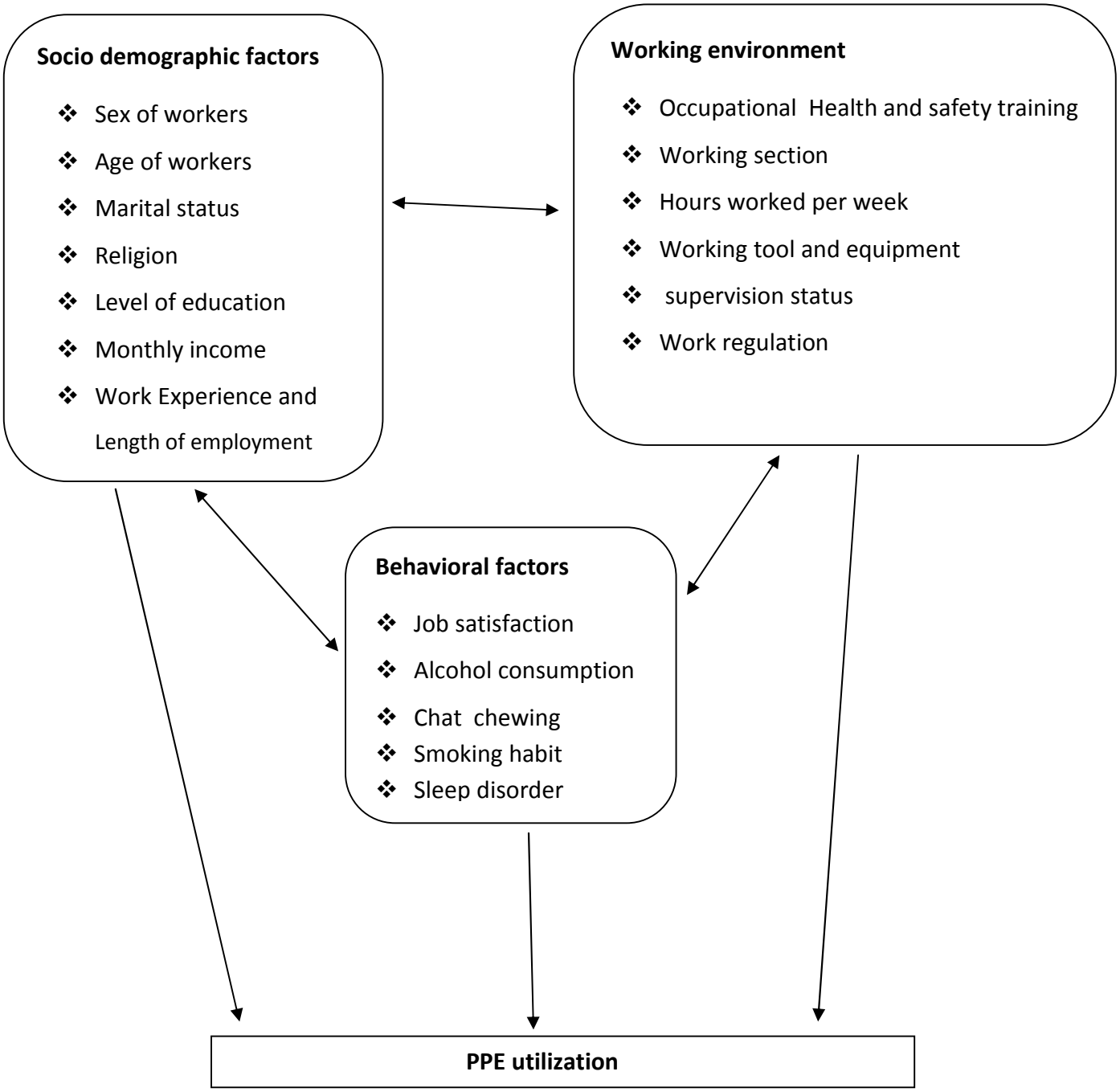

Figure 1: A conceptual framework utilization of PPE and associated factors**.** Adopted from different literatures [19, 2, 24-26, 26, 32-34]

1.3. Justification of the study.

Textile industry is one of the manufacturing industries in Ethiopia that creates large job opportunity many people in the country. However, safety and health problems are becoming major challenges in this sector because of limited use of PPE, lack of safety training, lack workplace safety and health policy, and inefficient safety management system at organizational levels. Due to this, employers, workers and government are losing measurable costs.

Utilization of PPE is one of the most important measures to safeguard workers from exposure to occupational hazards, especially in developing countries where PPE might often be the only line of defense against hazards. If there is inappropriate use of PPE, the exposures consequence is increased rate of illnesses, absenteeism, and reduced rate of productivity.

There is a shortage of studies clarifying about situation of PPE utilization among textile factory workers in most of Subsaharan African countries, like Ethiopia. This paper presented the findings of a study which investigated the magnitude of PPE utilization and associated factors among textile factory workers in southern Ethiopia, a low-income country in East Africa. The study will fill a critical gap in understanding PPE utilization in Ethiopia and contributes to the growing workplace safety research in low-income countries. Such studies may also help in developing evidence-based interventions to improve workers safety

2. Objectives

2.1. General objective

To assess the magnitude of PPE utilization and associated factors among textile factory workers in Hawassa Town, southern Ethiopia

2.2. Specific objectives

To determine the magnitude of PPE utilization among textile factory workers

To identify factors associated with PPE utilization among textile factory workers

3. Methods and materials

3.1. Study Design:

An institutional-based cross-sectional study design was conducted

3.2. Study period and Area:

The study was conducted in textile factory in Hawassa Town, southern Ethiopia from January to March, 2014. Hawassa Town is located at 257 Kilometers to south of Addis Ababa, the capital city of Ethiopia. Hawassa textile factory was established in 1974 E.C at Southern Nations Nationality and People regional State, in Hawassa Town. It is one of the largest private limited company in the Town. The factory had a total of 930 workers as manpower. Of whom, 605(65.0%) were permanent workers, 300(32%) temporary workers, and 25(3.0%) daily worker[37].

3.3. Source of population:

All Hawassa textile factory workers

3.4. Study population:

All textile factory workers who are directly involved in the process of production was the study population.

3.5. Inclusion criteria:

All textile factory workers who were directly involved in the process of production at spinning, weaving, finishing, engineering, and garment departments were included in the study until the required sample size was obtained.

3.6. Exclusion criteria:

Workers who were absent from work due to different reasons during the time of data collection were excluded from the study.

3.7. Sample size and sampling procedure

3.7.1. Sample size

The sample size was calculated using single population proportion formula by the following assumptions;

P = prevalence of PPE utilization = 0.4934 [22], α=0.05, error of margin = ±0.04, and none response rate =0.1

Where:

$$n = \frac{(Z\ \alpha/2)^2\ P\ (1-P)}{d^2} = \frac{(1.96)^2\ 0.4934(1-0.4934)}{(0.04)^2} = \mathbf{600}$$

By considering the 10% none response rate the final sample size was **660**.

3.7.2. Sampling procedure

Stratified sampling followed by simple random sampling techniques was used to select the study participants. That is, the manufacturing units were stratified into five departments: spinning, weaving, finishing, engineering, and garment department. Then, the total of 660 samples was proportionally allocated to each department. The participants were drawn from the factory's list of workers using simple random sampling (lottery method) (Figure 2).

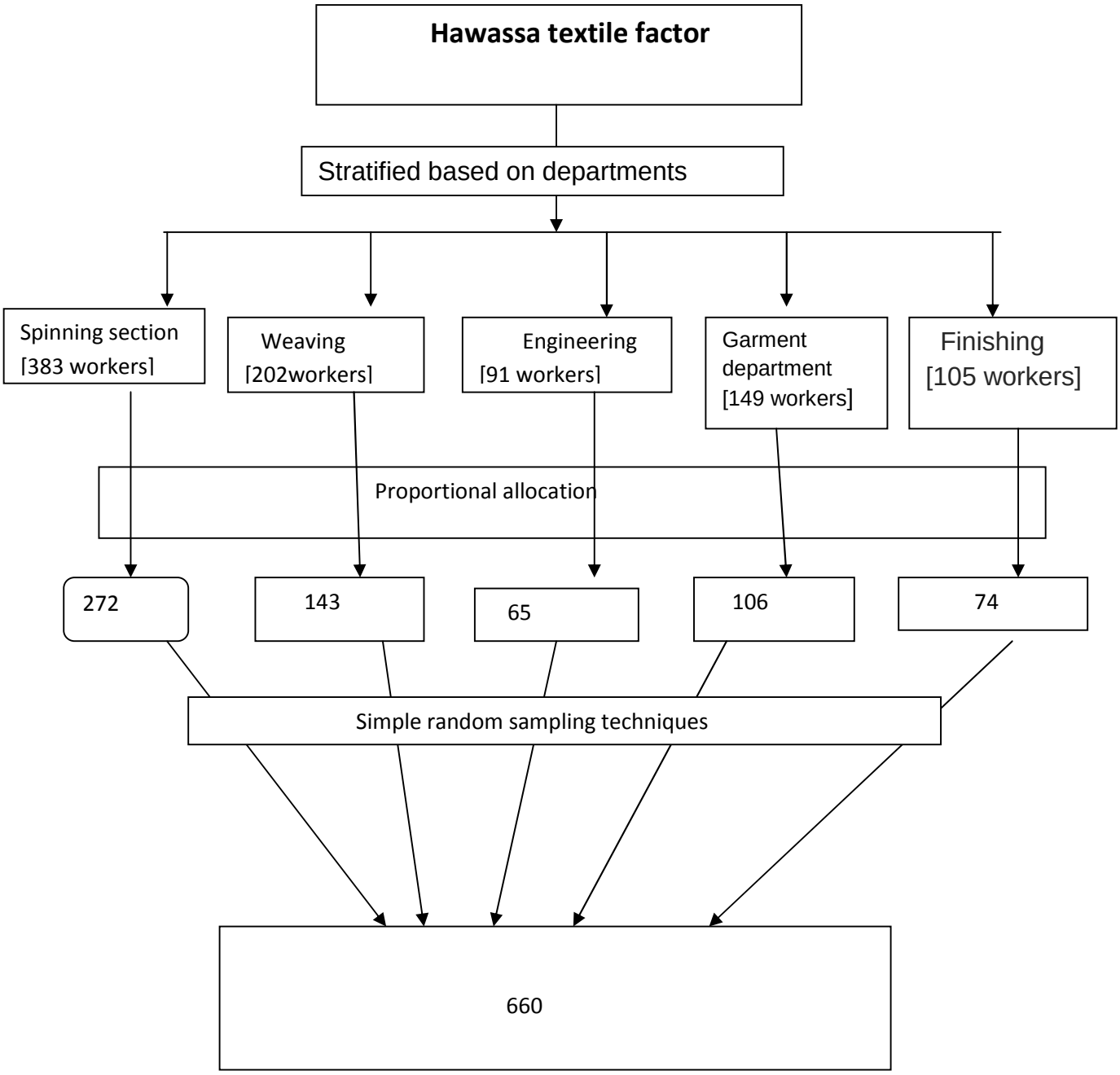

Figure 2: Schematic presentation of the sampling procedure

3.8. Variables of the study

Dependent variable

PPE utilization

Independent variables

Socio demographic factors

Work environment factors

Behavioral factors

3.9. Operational definition

Utilization of PPE: at least 76.0% PPEs were used of worker-specialized clothing or equipments by workers for protection against health and safety hazards in the workplace; which was witnessed by observation of the data collectors during work.

Worker: means a person who is directly involved in the process of production and has an employment relationship with an employer [38]

PPE: is anything worn by a person to minimize risk to the person's health or safety and include a wide range of clothing and safety equipments[38].

Job satisfaction: is a self-reported feeling of participants about their job as it is pleasurable for them

Good Ventilation: is a self-reported explanation of participants as the working room ventilation serves to maintain a thermally comfortable work environment.

Good Lighting: is a self-reported explanation of participants as the working room light reduces eye strain and glare during the work time.

3.10. Data collection procedures

Data on socio-demographic and behavioral characteristics, and environmental conditions were collected using structured and pre-tasted questionnaire which is adopted from different literatures. Data were administered by eight data collectors who were degree graduates and had experience of data collection. Supervision was made by two degree graduates who had experience in workplace health and safety inspection, data collection, and supervision.

Observational check list was used to collect data on magnitude of PPE utilization. The data collectors classified workers as those who used PPE during work when they used at

least 76.0% of PPE necessarily to be used in the working section. That is, workers who were observed wearing of at least 76.0% of PPE like respirator, hand glove, eye protection, boot, overall, ear plugs and mask at spinning section, respirator, glove, goggle, boot, ear plugs and overall at weaving section, glove, mask, ear plugs , boot, , overall and respirator at finishing section, respirator, glove, boot, goggle, overall, reflector, mask and helmet at engineering section, and glove, boot, mask and overall at garmenting section were classified as those who used PPE during work in this study.

3.11. Data quality assurance

Training for data collectors and supervisors was given for two days. The questionnaire was pre-tested to identify potential problem areas, and unanticipated interpretations to any of questions. Principal investigator and supervisors made spot-checking on daily bases to ensure completeness and consistency of information.

3.12. Data processing and analysis

Data entered and cleaned using EPi Info version 3.5.3 statistical software, were analyzed on SPSS version 16. Frequency distribution, mean, standard deviation, and percentage were used for most variables. A forward stepwise binary logistic regression analysis was done to assess the relative importance of the explanatory variables on the dependent variable (PPE utilization). The odds ratio with a 95% confidence interval (CI) was used to test the statistical significance of variables.

3.13. Ethical clearances

The study protocol was reviewed and approved by the Institutional Review Board of the University of Gondar via the Institute of Public Health. Permission was obtained from Hawassa Textile Factory Administrative Office prior to data collection. Study participants were interviewed after informed written consent was obtained. They were also informed that their participation was voluntary and they could withdraw from the interview at any time without consequences. The participants were assured that their responses would be treated confidentially through the use of strict coding measures. Finally, safety education was given to workers who observed not utilizing all the necessary PPE during work.

5. Results

A total of 660 workers were involved in the study, all of the respondents were volunteer to participate, that made response rate of 100%.

5.1. Socio-demographic characteristics

Out of the 660 workers 533(80.8%) were males and 127(19.2%) females. The mean age with a standard deviation of the workers was 32.9 ±9.3. More than two-thirds, 454(68.8%), of them belonged to the age group of 18-39 years. The majority, 399(60.5%), attended secondary and above education. About half, 310(47.0%), served for more than ten years in the factory. Regarding religion 609(92.3%) of the workers were Christian. The majority, 383(58.0%), of the workers were married. More than a quarter, 225(34.1%), belonged to Sidama ethnic group. Nearly two-thirds, 484(63.3%), had a monthly income of less than or equal to Birr 1500 (**Table 1**).

Table 1 Socio-demographic characteristics of textile factory workers at Hawassa Town, southern Ethiopia, 2014

Variables	Number	Percent
Sex		
Male	533	80.8
Female	127	19.2
Age (in years)		
18-25	200	30.3
26-39	254	38.5
>39	206	31.2
Educational status		
Illiterate	17	2.6
Primary	244	37.0
Secondary	203	30.8
Above secondary	196	29.7
Service duration (in years)		
1-10	350	53.0
>10	310	47.0
Religion		
Christian	609	92.3
Other	51	7.7

Marital status		
Married	383	58.0
Single	277	42.0
Ethnicity		
Sidama	225	34.1
Wolayita	193	29.2
Amhara	104	15.8
Other	138	20.9
Monthly income (in Birr)		
<1000	243	36.8
1001-1500	241	36.5
>1500	176	26.7

5.2. Behavioral characteristics and environmental conditions

The majority, 530(80.3%), 555(84.1%) and 567(85.9%), of the workers reported that they didn't drink alcohol, chew khat and smoke cigarette, respectively. Three-fourths, 492(74.5%), stated that they were satisfied with their job. The majority, 651(98.6%), 618(93.6%) and 415(62.9%), informed that they used work guidelines, received safety orientation and attended safety training, respectively. Safe Working tool and equipment were reported by 377(57.1%). Nearly two-thirds, 406(61.5%), complained that there were no safety supervision during their work. Five hundred sixty-two (85.2%) of the workers reported that there was a work shift in the factory. Nearly half, 310(47.0%), stated that there was no work rotation. Poor conditions of ventilation and light in the working rooms were testified by 477(72.3%) and 323(48.9%) of the workers, respectively (Table 2).

Table 2 Behavioral characteristics and environmental conditions of workers at Hawassa Textile Factory, southern Ethiopia, 2014

Variables	Number	Percent
Drink alcohol		
Yes	130	19.7
No	530	80.3

Chew khat		
Yes	105	15.9
No	555	84.1
Smoke cigarette		
Yes	93	14.1
No	567	85.9
Satisfied with job		
Yes	492	74.5
No	168	25.5
Used work guideline		
Yes	651	98.6
No	9	1.4
Attended safety training		
Yes	415	62.9
No	245	37.1
Orientation given		
Yes	618	93.6
No	42	6.4
Safe Working tool and equipment		
Yes	**377**	**57.1**
No	**283**	**42.9**
Safety supervision		
Yes	254	38.5
No	406	61.5
Work shift		
Yes	562	85.2

No	98	14.8
Work rotation		
Yes	350	53.0
No	310	47.0
Ventilation		
Good	183	27.7
Poor	477	72.3
Light		
Good	337	51.5
Poor	323	48

5.3. Magnitude of PPE utilization

Out of 660 workers 544(82.4%) were observed for use of PPE during work. Of whom, 446(82.0%) were males and 98(18.0%) females. The majority, 373(68.6%), of them belonged to the age group of 18 to 39 years. Three hundred seventeen (58.3%) were married.

One hundred sixteen (17.6%) of the workers reported that they didn't use PPE during work. The reasons for not using PPE were for 50(43.0%) lack of PPE, for 23(20.0%) lack of practice, for 23(20%) uncomfortable to use, and for 20(17.0%) lack of safety education.

The majority, 308(46.7%), of the workers used boot shoes followed by 204(30.9%) overall and 155(23.5%) glove (**Figure 3**).

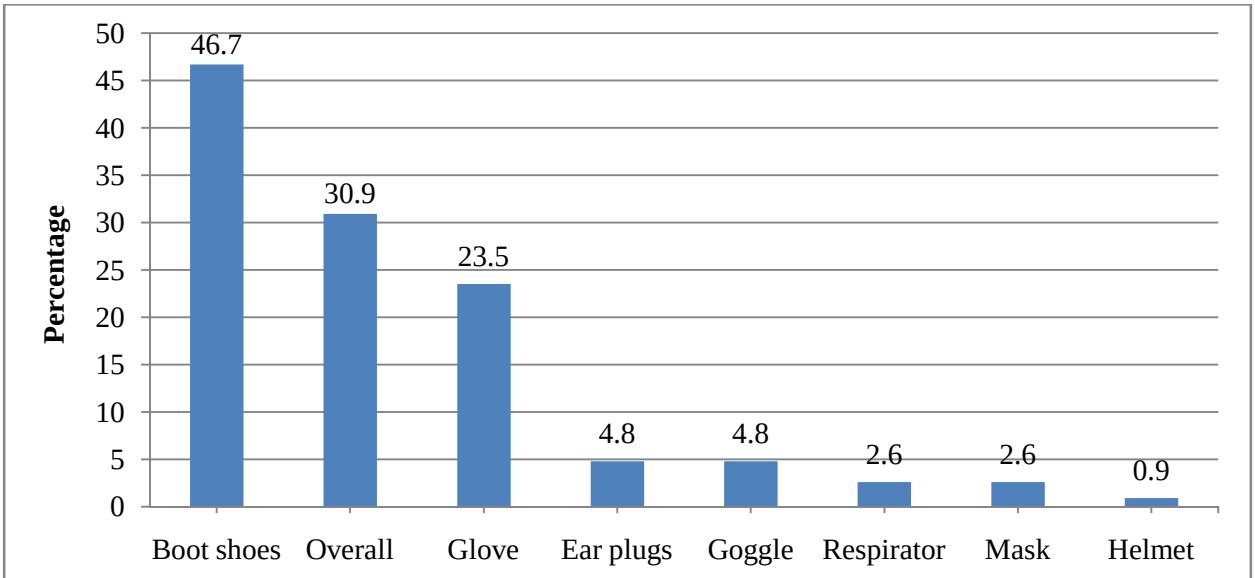

Figure 3 Types of PPE used

The magnitude of PPE utilization was 202(73.0) for spinning section, 120(76.0) for weaving section, 50(87.6 for finishing section, 52(87.3 for engineering section, and 87(88.2) for garmenting section (**Table 3**).

Table 3 magnitude of PPE utilization by working section among textile factory workers in Hawassa Town, southern Ethiopia, 2014

Working section	Number	Percent
Spinning section		
Used	199	73.0
Not used	73	27.0
Weaving section		
Used	109	76.0
Not used	34	24.0
Finishing section		
Used	65	87.6
Not used	9	12.4
Engineering section		
Used	57	87.3
Not used	8	12.7
Garment section		
Used	94	88.2
Not used	12	11.8

5.5. Factors associated with PPE utilization

Table 4 presents factors which remained statistically significant in the bivariate and multivariate logistic regression analyses. In this study, the independent predictors of PPE utilization on the multivariate analysis include service duration of >10 years [AOR: 0.20, 95%CI: (0.07, 0.50)], availability of PPE [AOR: 21.47, 95%CI: (8.61, 53.5)], shift work [AOR: 2.23, 95%CI: (1.09, 4.55)], drink alcohol [AOR: 0.25, 95%CI: (0.10, 0.65)], and smoke cigarette [AOR: 5.0, 95%CI: (1.28, 19.5)], (**Table 4**).

Table 4 Bivariate and multivariate analysis for factors associated with PPE utilization among textile factory workers in Hawassa Town, southern Ethiopia, 2014.

Variables	Utilized PPE		Crude OR(95% CI)	Adjusted OR(95%CI)
	Yes	No		
Service duration (in year)				
1-**10**	**272**	**78**	**1.0**	**1.0**
>10	**272**	**38**	**2.05(1.35, 3.13)**	**0.2(0.07, 0.5)**
PPE available				
Yes	**54**	**62**	**35.4(18.4, 68.84)**	**21.47(8.61, 53.5)**
No	**13**	**531**	**1.0**	**1.0**
Shift work				
Yes	**475**	**87**	**2.3(1.4, 3.75)**	**2.23(1.09, 4.55)**
No	**69**	**29**	**1.0**	**1.0**
Drink alcohol				
Yes	**106**	**24**	**0.92(0.564, 1.53)**	**0.25(0.10, 0.65)**
No	**438**	**92**	**1.0**	**1.0**
Smoke cigarette				
Yes	**86**	**7**	**2.924(1.3, 6.5)**	0.20 (0.05, 0.78)
No	**458**	**109**	**1.0**	**1.0**

6. Discussion

In this study, the magnitude of PPE utilization among textile factory workers was 82.4% [95%CI: (79.5, 85.3)].This finding is by far higher than that of studies from Asia (12.0-49.4%) [19,25, 26] and Africa (16.7-75.3%) [17,23, 27,29, 30]. The difference could be due to difference in sample size, definition of PPE utilization, and method of data collection. The other possible explanation may be due to the fact that majority of the workers were satisfied with their job, used work guidelines, received safety orientation, and attended secondary and above education. However, this doesn't mean that there will be no need for further strengthening of the safety programs as a significant proportion of the workers still does not use all the necessary PPE during work. The interventions should consider designing and provision of PPE, and regular safety education.

One important finding of this study was the identification of independent predictors influencing PPE utilization. It was found that workers who served for greater than ten years were 0.8 times less likely to use all the necessary PPE during work than those who served for less than or equal to ten years. The possible explanation for this may be that those who served for greater than ten years could be familiarized to the work environment and developed false consciousness of safety which drive them not to comply with safety precautions including proper use of PPE.

Like in previous studies [23, 34], availability of PPE was found to be strong independent predictor of PPE utilization in this study. Cognizant of this fact, safety administration programs should consider availing of all the necessary PPE on regular bases to promote health and safety in the workplace.

This study found that the odds of PPE utilization among textile factory workers who were assigned to work in shift would be about 2.23 times more likely higher than those who were not. The reason behind this could be that shift work encourages workers towards PPE utilization by providing adequate time to think for and communicate about their safety. This signifies that there is a need for revising of work schedule to promote use of PPE in the factory.

Less likely use of PPE was observed among cigarette smokers and alcoholists in this study. This might be due to the fact that abuse of substances, like cigarette and alcohol, is likely to cause a change in the behavior and impair workers concentration and performance. A high blood level of substances while at work will endanger both safety and efficiency, and be the cause of increased likelihood of mistakes, poor decision making, and errors in judgment. As the result of this fact, the factory's safety policy should consider control of substance abuse at workplace.

7. Strengths and limitations of the study

7.1. Strength of the study

Use of observational checklist besides the questionnaire to collect the data

7.2. Limitations

Being a cross-sectional study design is one of the limitation of the study

Use of single factory workers

8. Conclusion and Recommendations

8.1. Conclusion

In this study a relatively higher personal protective equipments utilization rate was reported compared to other studies in developing countries. Interventions to promote personal protective equipments utilization should focus on areas, such as service duration, availability of personal protective equipments, presence of work shift, and substance use.

8.2. Recommendations

1. Minster of labour and social affairs:

   Better arrange training and Conduct regular safety inspection focus on areas, service duration, availability of personal protective equipments, presence of work shift, and substance use

2. To workers: -

   Advisable to follow health and safety rules and culture

   Should better cooperate and follow the company's working rule

3. To employers:

   Availing all the necessary PPE and promoting their use is suggestive

   Should better arrange work shift for all workers

4. To researchers:

   Should better conduct further large-scale studies considering multiple factories

9. Reference

1. Global Institute. *Global estimates of occupational accidents and work-related diseases in Konetalo building auditorium k1702 at Tampere University of technology* 2010 ,12(2):12-18.
2. World Health Organazetion. *workplace health promotion [*accessed at1/15/2014 at 11:30 pm].
3. Casey C. *fire protection research foundation* one battery march Park Quincy, MA USA 2012, (2): P .1-15, .
4. Cherie B and Allen M. *Department of labor occupational safety and health division* 1101 mail Service center Raleigh J OSHA State, 2013 ,NC 27699-1101 in 5-10.
5. Mckinsey Global institute. *Global labor market emerges (1980-2010)* Mckinsey & company, 2012, p. 5-18.
6. NIOSH, *personal protective technology program plan to implement the evaluation recommendations* national academies, 2010: p. 15-36.
7. International Labor Organization and World Health Organazetion. *workplace health promotion* [accessed at 11:42 1/15/2014].
8. International Labor Organization. *World Day for Safety and Health at Work* 28 April, 2013 *[accessed at 12:02 1/15/2014].*
9. Global textile industry report, Available at https://www.google.com/textile+industry+pdfnewwi [*accessed at* 1:00 pm 1/17/2014
10. Barclay L and Conn R*. Health Education in the Workplace* AAOHN Journal, 2008 2(28):407-412.
11. Gawenda D, Hudson E and Perea C. *Occupational Health Nursing Care Guidelines* Springer Publishing Company Boston, 2008 (2) :17-30.
12. Danton S. *Prevention of Injury and Disease in occupational Health Nursing Practice* Harris CJ, 2009 second edition p. 48-75.
13. Eid AH and Sewefy A. *Health Hazard & safety* Egypt J. Med Assoc, 2009 51(3): 757.
14. Health and Safety Executive. *costs to Britain of workplace fatalities and self reported injuries and ill health report,* 2010 and 2011: 5-36.

15. Aghera N. *occupational health and safety with special reference to textile industry research scholar,* Singhania university, Acheri Bari J. hunjhunu, 2013 volume: 2 | Issue: 3 |
16. Hildegunn K. *the global textile and clothing industry post the agreement on textiles and Clothing* World Trade Organization Geneva, Switzerland, 2007. **2**(3): p. 6.
17. personal *protective equipment Available at l* http://www.com/ws/ [accessed at 7.58 pm 1/17/2014]
18. Burkean M. *the American Board for Occupational Health Nurses Role delineation and validation protect Occupational Health Nursing,* 2009, 5: p.78-69.
19. Abdel H, Aly H and Abde L. *an intervention study to evaluate compliance with PPE among Textile industry workers at Benha,* Journal of American Science, 2012 volume **2**(7).p.3-7
20. Dibendetto DV, Harris J and Cunnery RJM. *Occupational health and safety manual* 2007 third edition, OEM press: 10-32.
21. International Labor Organization. *Guide to personal protective equipment Available at* http://blekko.com/ws/[accessed at 8:03 pm 1/12/2014]
22. *Chapter-II review of literature Available at* https://www.google.com/ [accessed at 9:30 pm/1/23/2014].
23. Akintayo W. *knowledge attitude and practice on the use of PPE by traditional resist Fabrics workers in Abeokuta Nigeria Kuwait Review* Chapter of Arabian Journal of Business and Management Review, 2013 *Vol. 2, No.7* : p. 31-33.
24. Jaiswal A. *Case Control study among carpet thread factory workers in Uttar Pradesh, India occupational Injury* Global Journal of human social science history & Anthropology, 2012 *Volume Issue* 1, 12(10).
25. Malik N, Ahmed MA, Sultan PT, Akhtar S and Ali T. *Role of hazard control measures in occupational health and safety in the textile industry of Pakistan pak* J.agri. sci, 2010. 47(1): p. 72-76.
26. Parimalam P, Kamalamma N and Kumar A. *knowledge, attitude and practice related to occupational health problem occupational health and safety in the world India* J. m. sci, 2007, **3**(2): p. 9.

27. Kamal A, Sayed M and Massoud A. *Usage of personal protective devices among Egyptian industrial workers* American J.of Industrial Medicine, 2007, 13(6):706-716(doi: 10.1002/ajim.4700130609).
28. Zungu L. *A survey of work health and safety conditions in small-scale garment enterprises in in Gaborone, Botswana. Occupational Health Southern Africa.Available at:* WWW.OCCHEALTH.CO.ZA, 2011.
29. Aderaw Z, Engedaw D and Tadesse T. *Determinants of Occupational Injury: a case control study among textile factory workers in Amhara Regional State, Ethiopia.* J,Trop Med., 2011:1-8.
30. Motbainor A, Kumie A and Melkamu Y. *Assessment of knowledge and practice on safety information among factory workers Addis Ababa, Ethiopia,.* 2007.
31. Zungu L and Gabe SG . *A survey of work, health and safety conditions in small-scale garment enterprises in occupational health southern Africa* WWW.OCCHEALTH.CO.ZA, January/February Botswana 2011
32. Ahmad I and Qadir. *Knowledge, attitude and practice related to occupational health safety among textile mills workers department of community medicine and Ophthalmology, Gomel Medical College Pakistan Gomal* J Med Sci, 201210: 22-6.
33. Occupational Safety and Health Branch Labour Department occupational health and safety councle, *A Simple Guide to Health Risk Assessment Office Environment Series OE of ventilation* third edition, 2004: p. 1-2.
34. *Truong C and Mark G. The knowledge, attitudes and practice of using personal protective equipment.* Hue University, 2010 N0 61 : p. 12- 22
35. Howyida S, Abd EL, Hameed H, Osama A. and Abd El. *An intervention study to evaluate compliance with personal protective equipment among workers at Textile industry,* J American Science 2012;8(7), 2012. 117-121: p. 117.
36. Kamal A. *Usage of personal protective devices among Egyptian industrial workers* DOI: 10.1002/ajim.4700130609 Article first published online, 19 JAN 2007.
37. South Nation's Nationality of People Regional State Hawassa town Ethiopia Awassa Textile, *Factory Manpower Summary Data December* 02/2013.
38. Ministry of Labour and Social Affairs, *Labour proclamation No. 377/2003 Federal Negarit Gazeta No .12, Addis Ababa, Ethiopia 2004; pp 2476-2477.*

Annex- I-English version of questionnaire

University of Gondar

College of Medicine and Health Sciences

Institute of Public Health

Questionnaire for assessment of utilization PPEs and associated factory among Hawassa textile factory workers Southern Ethiopia.

Verbal consent form before conducting interview

Greeting

Hello, I am_____. I am working in the research team of school of Public Health College of medicine and health science, Gondar University. I would like to ask you a few questions about utilization of PPEs. This will help us to use PPEs, improve occupational safety, health and working environment services provided to you based on your answer to our questions. Your name will not be written in this form and will never be used in connection with any information you tell us. All information given by you will be kept strictly confidential. Your participation is voluntary and you are not obliged to answer any question you do not wish to answer. If you fill discomfort with the interview please fill free to drop it any time you want. This interview will take about 30 minutes. Do I have your permission to continue?

1. If yes, continue to the next page

2. If no, skip to the next participant by writing reasons for his/ her refusal

Informed consent Certified by Interviewer:

Code_____ Name _____signature_____ Date of interview _____ Time started _____ Time completed_____ Result of interview: 1.Completed 2.Respondent not available 3.Refused 4. Partially completed Checked by Supervisor: Name _____signature _____Date _____

Questionnaire

Questionnaire identification number _____

Part I: Socio-demographic characteristics

No.	Questions	Possible Response	skipping	Code
101	Sex	Male ☐ Female ☐		
102	Age in years	_____ years		
103	Marital status	1. Married/live with partner ☐ 2. Single ☐ 3.Divorced ☐ 4 Widowed ☐ 5.Separated ☐		
104	Ethnicity of respondent	1.Sidama ☐ 2.Wolyita ☐ 3.Amhara ☐ 4.Kambata ☐ 5.Oromiya ☐ 6.Gurage ☐ 7.Hadiya ☐ 8.Other ☐		

105	Religion	1. Orthodox ☐ 2. Muslim ☐ 3. Protestant ☐ 4.Catholic ☐ 5. Others (specify)_____		
106	Level of educational status	1. Illiterate ☐ 2. Read and Write ☐ 3. Primary education ☐ 4.. High school ☐ 5. Diploma ☐ 6 .degree ☐ 7. above ☐		
107	Monthly income in Birr	_____ Birr		
108	Service of duration in days or months or years	_____ years		
109	Height in meter	_____ meter		
110	Weight in kilogram	_____ kg		
111	Are you pregnant currently? (only for females)	1. Yes ☐ 2. No ☐		

Part two Utilization of PPEs

201	Have you had any safety training?	1.Yes ☐ 2. No ☐
202	If yes to Q201 who did give the training?	1. Safety officer. ☐ 2. Experienced worker ☐ 3. Others (specify) ---------- ☐
203	Do you know what PPEs means?	1. Yes ☐ 2. No ☐
204	Are these PPEs available in your organization?	1. Yes ☐ 2. No ☐
205	Does the worker use all the necessary PPEs? (use observational checklist)	1. Yes ☐ 0. No ☐
206	If yes to Q205 which one do you use? (more than one answer is possible)	1 gloves ☐ 2.Respirator ☐ 2 .Nose/mouth masks ☐ 3.ear protection ☐ 4. Helmet ☐ 5..Foot wear (boots) ☐ 6.Reflectors ☐ 7.Clothing/apron/overall. ☐ 8. .Hand arm protection ☐
207	What are your reasons for **not** using any of the PPEs?	1.Lack of protective Equipment ☐ 2.Lack of safety and health Education ☐ 3.Lack of knowledge ☐ 4.Lack of practice ☐ 3.Not comfortable to use ☐ 4.It decreases work performance ☐ 5.Create safety and health hazards ☐

		6.Other, (specify)_____ ☐
208	Are there work regulations present in your factory?	1. Yes ☐ 2 . No ☐
209	If yes to Q208 work regulations well documented?	1. Yes ☐ 2. No ☐
210	Do you have guideline that help for your particularly activities?	1.Yes ☐ 2 .No ☐
211	If yes to Q210 do you follow that particularly guideline?	1. Yes ☐ 2 . No ☐
212	Is an orientation given for a new worker?	1. Yes ☐ 2. No ☐
213	is an available inspection service During work time	.1. Yes ☐ 2. No ☐
214	If for Q212 is yes, who gave you the orientation?	1. Safety officer ☐ 2. Experienced worker ☐ 3. Others (specify) _____

Part three: work environment information

301	Days worked per week	_____
302	Hours worked per day	_____
303	Do you have safe working tool and equipment?	1. Yes ☐ 2. No ☐
304	Do you get supervision?	1. Yes ☐ 2. No ☐
305	How do you rate condition of the room ventilation?	1. Good ☐ 2. Poor ☐
306	How do you rate condition of the room light?	1. Good ☐ 2. Poor ☐
307	Is there work shift?	1. Yes ☐

		2. No ☐
308	Is there work rotation?	1. Yes ☐ 2. No ☐

Part four: Information on workers behavior

401	Do you drink alcohol?	1. Yes ☐ 2. No ☐
402	If yes to 401, how often?	1. Every day ☐ 2. 1-3 days/wk ☐ 3. Occasionally ☐
403	Do you chew chat?	1. Yes ☐ 2. No ☐
404	If yes to Q403, how often?	1. Every day ☐ 2. 1-3 days/wk ☐ 3. Occasionally ☐
405	Do you smoking cigarette?	1. Yes ☐ 2. No ☐
406	If yes to 405, how often?	1. Every day ☐ 2. 1-3 days/wk ☐ 3. Occasionally ☐
407	Do you have any sleeping disorders?	1. Yes ☐ 2. No ☐
408	Are you satisfied with the job you are doing?	1. Yes ☐ 2. No ☐

This is the end of our questionnaire. Thank you very much for your participation!

ANNEX-II- Information Sheet and Consent Form

Title of the Research Project: To assess the utilization of personal protective device and associated factors among textile factor at Hawassa town, Southern Ethiopia

Name of Investigator: Temesgen Kelaye

Name of the Organization: University of Gondar College of Medicine and Health Sciences, Institute of Public Health.

Name of the Sponsor: University of Gondar

Information Sheet and Consent Form prepared for Hawassa textile factory PLC worker who are going to participate in the research project entitled as “the utilization of PPEs and associated factors among textile factor at Hawassa town, Southern Ethiopia **2014**

Introduction:

This information sheet and consent form will prepare with the aim of explaining the research project that the participants are asked to join by the group of research team. The main aim of this research project will assess the utilization of PPEs and associated factors among textile factor at Hawassa town, Southern Ethiopia 2014”.

This research team included one principal investigator, 8 degree graduates as data collectors, two supervisors who are BSc. holders and two advisors from University of Gondar.

Purpose of the Research Project:

Due to lack of research attempt on this specific working area the worker are major health problem due to work, use PPEs is most appropriate to reduce work related injury and illness. This studies will play an important role by determine the magnitude of utilization of PPEs and to identify factors associated with utilization of PPEs and promote the health and safety at work. Doing so is critical in order to design appropriate strategies to improve the situation based on the findings.

Procedure:

In order to measure the magnitude and associated factors of utilization PPEs among Hawassa textile worker 2014; we invited participants to take part in this project. If they are willing to participate in this project, they need to understand and gave their consent. Then, they are requested to give their response to the data collectors.

For this questionnaire based study subjects are a textile factory worker who will select by simple Systematic random sampling. All the response given by participants will keep confidential by using key and locked system like computer pass word whereby no one will have an access to it.

Risk and /or Discomfort:

By participating in this research project they might feel that it have some discomfort especially wasting their time (30 minutes) but this might not be too much as they are one of the member of the worker. So, their response helped as an important input to show magnitude and associated factors which will be an important evidence to undertake the problem and to improve the health and safety. There will not be risk in participating in this research project.

Benefits:

If you are participating in this research project, there might not be direct benefit to you. But, your participation will likely to use PPEs which will help to develop better intervention to improve health and safety condition.

Incentives/Payments for Participating:

The participants will not provide any incentives or payment to take part in the project

Confidentiality:

The information collected from this research project will kept confidential and information about participants that will be collected by this study will store in a file, without their name. In addition, it is not revealed to anyone except the investigator and kept in key and locked system with computer pass ward.

Right to Refusal or Withdraw:

They have a full right to refuse from participating in this research (they have a right not to respond to some or all the questions). They have also the full right to withdraw from this study at any time you wish, without losing any benefits from this project.

Person to contact:

This research project will review and approve by the ethical committee of the University of Gondar. If they want to know more information, they can contact the committee through the address below. If they have any question they can contact any of the following individuals and they may ask at any time they want.

1. Temesgen kelaye Gondar College of Medicine and Health Science, Department of Occupational Health and Safety Management.

   Cell phone: +251- 09 17199604

   Email temesgenkelaye@yahoo.com

2. Sebsibe Tadesse

   Cell phone: +251 0912893304

3. Yalemzewod Asssfa

   Cell phone; +2510911568477

   Email pipizewa@gmail.com

Annex- III-Checklist for observation of PPE utilization

INSTITUTE OF PUBLIC HEALTH

COLLEGE OF MEDICINE AND HEALTH SCIENCES

UNIVERSITY OF GONDAR

Personal Protective Equipments (PPE) Checklist

Instructions: This observational checklist is designed to assess the magnitude of PPE utilization. Please tick under "Yes" if you observe the worker wearing of the listed PPE, otherwise tick under "No".

S/N	**Type of PPE to be worn**	**Do you Wear necessary PPE during work time**		
	In spinning section	**Answer**		**remark**
		No	**Yes**	
1	Respirator			
2	Hand gloves			
3	Eye protection /goggles			
4	Foot wear (boots)			
5	Clothing/apron/overall			
6	Ear plugs			
7	Mask			
	In weaving section			
1	Respirator	no	yes	
2	Glove			
3	Goggle			
4	Boot			
5	Ear plugs			
6	Overall			
	In finishing section	**Answer**		
1	Glove	no	yes	
2	Mask			

3	Ear plugs			
4	Boot			
5	Overall			
6	Respirator			
	In engineering section	**Answer**		
1	Reflector	no	yes	
2	Respirator			
3	Glove			
4	Boot			
5	Goggle			
6	Overall			
7	Mask			
8	Helmet			
	In garmenting section	**Answer**		
1	Glove	no	yes	
2	Boot			
3	Overall			
4	Mask			
5	Helmet			

Annex-IV-Amharic version questionnaire

በጎንደር ዩንቨርሲቲ

ህክምናና ጤና ሳይንስ ኮሌጅ

የህብረተሰብ ጤና ኢንስቲትዩት

በሀዋሳ በሚገኙ ጨርቃጫሪቂ ፋብሪካ ሠራተኞች የሚጠቀሙበት የማከላከያ መሳሪያዎችን አጠቀቃሙን በተመለከተ የተዘጋጀዉ ጥናት

የመጠየቂያ ቅፅ መለያ ቁጥር ----------

<u>ቃለ መጠይቁ ከመደረጉ በፊት የተሳታፊዎችን ፍቃደኝነት መጠየቂያ ቅፅ</u>

ሰላምታ! እንደምን አሉ? እኔ አቶ/ወ/ሮ/ወ/ሪት ----------እባላለሁ። አዚህ ደህንን ጥናት የማካሂደውም የጎንደር ዩኒቨርስቲ የህብረተስብ ጤና ኢኒሰቲትዩት ቡድን አባል ሆኜ ነው። ከዚያ በመቀጠል የሠራተኞችን የማከላከያ መሳሪያዎች አጠቀቃሙንና ያለዎትን አስተያየት በተመለከተ የተወሰኑ ጥያቂዎን ልጠይቅ ወዳለሁ ። ከርስዎ የምናገኛቸውን ማንኛውንም መልስ በሚስጥር አንጠብቃለን። ከዚህ ጥናት ጋር በተያያዘ በማንኛውም ቦታና ጊዜ ስምዎ እንደማይፃፍና አንደማይገለፅልዎ እንወዳለን። በጥናቱ የምናሳትፍዎት የአረስዎን ሙሉ ፈቃደኝነት ስናገኝ ብቻ ነው። በመጠየቁ ሂደት ለመመለስ የማይፈልጓቸውን ጥያቂዎች ያለመመለስ መብትዎ የተጠበቀ ነው። ይሁን እንጂ የርስዎ ትብብርና ትክክለኛ ምላሽ ጥናቱና ምርምሩ አንዲሳካ ከፍተኛ አስተዋፅዎ አለው። ይህ ቃለ-መጠየቅ 30 ደቂቃዎችን ይፈጃል ። ሰለዚህ ለሚቀርብልዎት ጥያቄ ትክክለኛና ፈቃደኛ ሆነው በትእግስት እንዲመልሱልን በአክብሮት እንጠይቃለን።

በጥናቱ ለመሳተፍ ፈቃደኛ ነዎት?

1. **አዎ ---------- ወደሚቀጥለው ይሻገሩ**
2. **የለም ----------**

ፈቃደኛ ያልሆኑበትን ምክንያቶች በመፃፍወደ ሴላ ተጠያቂ ይሻገሩ።

_____

_____

_____

ፈቃደኝነቱን ያረጋገጠው

የጠያቂው ስምና ፊርማ ---------- መጠየቁ የተሞላበት ቀን ---------- የተጀመረበት ሰዓት ----------የተጠናቀቀበት ሰዓት ---------- ስለመረጋገጡ የጠያቂዎች ስም ----------ፊርማ ---------- ቀን ----------

የጥያቄ መለያ ቁጥር _____

ክፍል አንድ፡. ማህበራዊና ስነ-ህዝባዊ ገፅታዎችን በተመለከተ

ተ.ቁ	ጥያቄ	አማራጭ መልሶች	መሸጋገሪያ	ኮድ
101	ፃታ	1. ወንድ ☐ 2. ሴት ☐		
102	እድሜ	_____ አመት		
103	የጋብቻ ሁኔታ	1.ያገባ/ች ☐ 2.ያላገባ/ች ☐ 3.የፈታ/ች ☐ 4.የሞተችበት/ባት ☐ 5.የተለያየ ☐		
104	ብሔር	1. ሲደማ ☐ 2..ወለይታ ☐ 3.አማራ ☐ 4,ከምበታ ☐ 5,ኦሮሚያ ☐		

		6፣የጉራጌ ☐ 7፣ሀዲያ ☐ 8. ሌላ ☐		
105	ሃይማኖት	1.ኦርቶዶክስተዋህዶ ☐ 2.ሙስሊም ☐ 3.ፕሮቴስታንት ☐ 4.ካቶሊክ ☐ 5.ሌሎች (ይግለፁ)_____		
106	የትምህርት ሁኔታ	1.ያልተማረ/ች ☐ 2.መፃፍና ማንበብ የሚችል/ትችል ☐ 3.የመጀመሪያደረጃትምህርት/1-8/ ☐ 4.የሁለተኛደረጃትምህርት/9-12/ ☐ 5.ዲፕሎማ ☐ 6.ዲግሪ እና.ከዛምበላይ ☐		
107	የቀን ወይም የወር ገቢዎ መጠን በብር	_____ ብር		
108	በሰምንት ቀን ወይም ወር ዓመት አገልግሎዋል	_____ ዓመት /ወር/		
109	ቁመት በሜትር	_____ሜትረ		
110	ክብደት በኪሎ ግራም	_____ኪግ		

111	በአሁኑ ሰዓት እርግዝና አለሽ ወይ/ለሴት/	1. አለኝ ☐ 2. የለም ☐		

ክፍል ሁለት የጥያቄ መለያ ቁጥር _____

የመከላከያ መሳርያዎች ጠቃቀምን በተመለከተ ያቀረቡ ጥያቄዎች

201	የሙያ የጤናን ደህንነት ስልጠና ወስደህ ታዉቃለህ	1. አዎ ☐ 2. የለም ☐	
202	ከጥያቄ 201 መልስዎ አዎ ከሆነ ስልጠናዉ ማን ነበር የሰጠዉ	1. የደህንነት ኃላፊ ☐ 2. ሌላ .የጤና በለሙያ ☐ 3. ልምምድ ያለዉ ሰራተኛ ☐ 4. ሌላ ካለ ይግለፁ ☐	
203	የግል መከላከያ መሳሪያ ምን እንደሆና የዎቃሉ	1. አዎ ☐ 2. አለዎቅም ☐	
204	መስራቤቱ የመከላከያ መሳርያ አለዉ ዎይ	1. አዎ ☐ 2. የለም ☐	
205	ሁሉንም የሚያስፈልገዉን መሳሪያዎችን ትጠቀማለ ዎይ(በምልክተ ቅጽ)	1. አዎ ☐ 0. የለም ☐	
206	ከጥያቄ 205 መልስዎ አዎ ከሆነ የተኛዉን ነዉ የምትጠቀመዉ	1 ጎንት ☐ 2.የትንፋሽ መከላከያ ☐ 3.ጆሮ ዉስጥ የሚሳካ ☐ 4.ኮፍያ/በረኔጣ ☐ 5.ጫማ ☐ 6 ጎግል መነፀር ☐ 7.ሁሉንም ገላ ያሚሸፍን ☐ 8. የእጅ/ክንዲ /መከላከያ ☐	
207	ለምንየመካለከየ መሰሪያ አይጠቀሙም	1.የግልመከለከያ መሰሪያ ለለመይቀረብ ☐ 2.ሰዉቀት ማነስ ☐	

		3.የስራ ፕረት ስለሚቀንስ ☐ 3.ስለጠቃቀም ሰለመይመች ☐ 4.የተግበር መነስ ☐ 5..የሙያ ደህንነትና ጤንነት ጠንቅ ሲያስከትሉ ስለሚችሉ ☐ 6. ሌለ ☐	
208	በድርጂተዋ የስራ ደንብ አለዉ	1. አዎ ☐ 2. የለም ☐	
209	ከጥያቄ ቁጥር 209 መልስዎ አዎን ከሆና ደንብ ይከተተሉተል	1. አዎ ☐ 2. የለም ☐	
210	በድርጂተዋ የስራ መመሪያዉ አለዉ	1. አዎ ☐ 2. የለም ☐	
211	ከጥያቄ ቁጥር 210 መልስዎ አዎን ከሆና መመሪያዉ ይከተሉታል ;	1. አዎ ☐ 2. የለም ☐	
212	አዲስ ተቀጠር ሠራተኛ የስረ ገለጻ ይደረገል ወይ;	1. አዎ ☐ 2. የለም ☐	
213	በሥራ ግዜ የስራ ቁጥጥርና እና ክትትል አለ ወይ	1. አዎ ☐ 2. የለም ☐	
214	ከጥያቄ ቁጥር 213 መልስዎ አዎን ከሆና በማን ይኪያዳል	1. የደህንነትናየጤና በለሙያን ☐ 2. በሌላ የጤና በለሙያ ☐ 3. ልምምድ በለዉ ሰራተኛ ☐	

የጥያቄ መለያ ቁጥር _____

ክፍል ሶስት፡ የስራ ቦታን በተመለከተ

301	በሳምንት ስንት ቀን ይሰራሉ ;	_____		
302	በቀን ስንት ሰዓት ይሰራሉ ?	_____		
103	የሚጠቀሙበት የስራ መገልገያዎች ምቹ ናቸው ?	1. አዎን ☐ 2. የለም ☐		
304	በስረ ሰዓት የሥራ ጉብኝትና ክትትል ይደረገል ወይ	1. አዎን ☐ 2. የለም ☐		
305	የሥራ ክፍሉ የአደረ መናፈስ እንደት ይገልፁታል ?	1. ከፍተኝ ☐ 2. ዝቅታኛ ☐		
306	ያሥራ ቦታ የብርን መጣን እንደት ይገልፁታል	3. ከፍተኝ ☐ 1. ዝቅታኛ ☐		
307	የሥራ ፈረቃ አለ ወይ	1. አዎን ☐ 2. የለም ☐		
308	የሥረ ገለጸ ይደረገል ወይ	1.አዎን ☐ 2..የለም ☐		

የጥያቄ መለያ ቁጥር _____

ክፍል አራት፡ የሰራተኛውን በህሪ በተመለከተ

401	አልኮሆል መጠጥ ይጠጣሉ	1. አዎን ☐ 2. የለም ☐		
402	ለጥያ 401 መልስዎ አዎ ከሆና መቼ መቸ ይጠጣሉ	1.በየቀኑ ☐ 2.. ከ 1-3 ቀናት ☐ 3.አልፎአልፎ ☐		
403	ጫት ይቅማሉ ;	1. አዎን ☐ 2. የለም ☐		
404	ለጥያ 403 መልስዎ አዎ ከሆና መቼ መቸ ይጠጣሉ	1. በየቀኑ ☐ 2. ከ 1-3 ቀናት ☐ 3. አልፎ አልፎ ☐		
405	ሲጋራ የጨሰሉ	1.አዎን ☐ 2.የለም ☐		
406	ለጥያ 404 መልስዎ አዎ ከሆና መቼ መቸ ይጠጣሉ	1. በየቀኑ ☐ 2. ከ 1-3 ቀናት ☐ 3. አልፎ አልፎ ☐		
407	እንቅልፍ የመተኛት ችግር አለብዎት ;	1.አዎ ☐ 2.የለም ☐		
408	በሚሰሩት ስራ ደስተኛ ነዎት ;	1.አዎ ☐ 2.የለም ☐		

ይህ የጥያቄዎቻችን መጨረሻ ነው። ጊዜውን ሰውተው ስለተባበሩን እናመሰግንዎታለ

Annex-V-Amharic version Checklist for observation of PPEs utilization

በጎንደር ዩንቨርሲቲ

ህክምናና ጤና ሳይንስ ኮሌጅ

የህብረተሰብ ጤና ኢንስቲትዩት

መመሪያ: ይህ የምልከታ መጠይቅ በሥራ ቦታ የግል ጉዳት መከላከያ መሣርያዎች የሚጠቀሙትን ብዘት ለማወቅ የተዘገጀ ነዉ።አባኪዎን ከተች ከተጠቀሱት የግል ጉዳት መከላከያ መሣሪዎች ዉስጥ ሠራተኛ የሚጠቀሙትን **አዎን** ከሚለዉ ቦታ ምሊክት ያድርጉ የማይጠቀሙት ከሆነ አይደለም ከሚለዉ ቦታ ምልክት ያድርጉ።

S/N	የሚጠቀሙት የግል ጉዳት የመከላከያ መሳረያዎችዓይነት	በሥራ ሳዓት የምየስፈልገዉን የግል ጉዳት መሣሪያዎችን ሠራታኞች ይጠቃመሉን ? (በምሊክታ)		
	በspinning ክፍል	**መልስ**		**መብራሪያ**
		አዎን	**አይደለም**	
1	የትንፋሽ መከላከያ መሣሪያ			
2	የእጅ መከላከያ ጓንት			
3	የአይን መከላከያ መነፀር			
4	ጫማ			
5	ሁሉንም ገላ የሚሸፍን ልብስ			
6	ጆሮ ዉስጥየሚሰካ የድምፅ መከላከያ			
7	የአፍናአፍንጫ መሸፈኛ ጭንብል			
	Weaving(የፈትል) ክፍል	**መልስ**		
		አዎን	**አይደለም**	
1	የትንፋሽ መከላከያ መሣሪያ			
2	የእጅ መከላከያ ጓንት			
3	የአይን መከላከያ መነፀር			
4	ጫማ			
5	ጆሮ ዉስጥየሚሰካ የድምፅ መከላከያ			
6	ሁሉንም ገላ የሚሸፍን ልብስ			
	Finishing(ማጠቃለያ ክፍል)	**መልስ**		
		አዎን	**አይደለም**	
1	የእጅ መከላከያ ጓንት			

2	የአፍናአፍንጫ መሸፈኛ ጭንብል			
3	ጆሮዉስጥየሚሳካ የድምፅ መከላከያ			
4	ጫማ			
5	ሁሉንም ገላ የሚሸፍን ልብስ			
6	የትንፈሽ መከላከያ መሣሪያ			
	Engineering(ምህንድስና ክፍል)	**መልስ**		
		አዎን	**አይደለም**	
1	ማንፀባረቂያ			
2	የትንፍሽ መከላከያ			
3	የእጅ መከላከያ ጓንት			
4	ጫማ			
5	የአይን መከላከያ መነፀር			
6	ሁሉንም ገላ የሚሸፍን ልብስ			
7	የአፍናአፍንጫ መሸፈኛ ጭንብል			
8	ኮፍያ/ባርኔጣ			
	Garmenting (ምሪት ክፍል)	**መልስ**		
		አዎን	**አይደለም**	
1	ጎንት			
2	ጫማ			
3	ሁሉንም ገላ የሚሸፍን ልብስ			
4	የአፍናአፍንጫ መሸፈኛ ጭንብል			
5	ኮፍያ/ባርኔጣ			

Annex-VI-Amharic version information sheet and consent form

የመረጃ መስጫና ስምምነት መጠየቂያ ቅፅ

በደቡብ ብሔር ቤረሰቦችና ህዚቦች ክልል መንግስት በሀዋሳ ከተማ አስተዳደር ውስጥ በሚገኝ በጫረቃጪ ፋብርካ ዉስጥ በሚሠሩ ሠራተኞች ምን ኃይል የማከላከያ መሳረያዎችን እንደምጠቀሙና የሊደርስ የሚችለውን ስራና ስራ ነክ አደጋዎችን እነደምከለከሉና እንደይጣቀሙ የምየደረግ ሚከንየቶችን ለመለየት የተዘጋጀዉ የጥናት የመረጃ መስጫና ስምምነት መግለጫ ቅፅ፡፡

ዋና ተመራማሪ፡ ተመስገን ከለዬ

የተቋሙ ስም ፡ ጎንደር ዩኒቨርስቲ፤ ህክምናና ጤና ሳይንስ ኮሌጅ የህብረተሰብ ጤና አጠባበቅ ተቋም

ወጪውን የሚሸፍነው ተቋም፡ ጎንደር ዩኒቨርስቲ

መግቢያ

ይህ የማብራሪያና የስምምነት ቅፅ አሁነ እርስዎ እንዲሳተፉበት የምንጠይቅዎን የምርምር ጥናት የሚያብራራ ነው፡፡ እባክዎ በዚህ ጥናት ለመሳተፍ ከመወሰንዎ በፊት ይህንን ቅፅ መረጃ ሰብሳቢዎች በሚያነቡልዎት ወቅት በጥንቃቄ በማዳመጥ ጥያቄዎች ካልዎት ይጠይቁ፡፡በዚህ ጥናት ምሳተፍ ከጀመሩ በኃላም በማንኛውም ጊዜ ጥያቄዎች ካልዎት መጠየቅ ይችላሉ፡፡ጥናቱ የሚካሄደው በአንድ የህብረተሰብ ጤና ተመራቂ ተማሪና በሁለት የጎንደር ዩኒቨርስቲ የጥናቱ አማካሪ ነው፡፡

የጥናቱ ዓላማ

ከዚህ ጥናት ውጪ በአሁኑ ወቅት የሚጠቀሙበት የማከላከያ መሳረያዎችን አጠቀቃሙን በተመለከተ የተጠነ ጥናት ብዙም የተደረገ ተመሳሳይ ጥናት ባለመኖሩ የማከላከያ መሳረያዎችን አጠቀቃሙን የምየሰይ መረጀ ብዙም አይታወቅም፡፡ ይህ ጠጥናት ያሙያ ደህንነትና ጤንነት አንዲጠበቅ ለማድረግና ወደፊትም ጉዳዩ የሚመለከታቸው አካላቶች ተገቢ የሆነ እቅድ በማውጣት እርምጃ እነዲወስዱ ከፍተኛ ጠቀሜታ ይኖረዋል፡፡

የአሰራር ሂደት

በጫረቃጪ ፋብርካ ዉስጥ የምሠሩ ሠራተኞች ምን ኃይል የማከላከያ መሳረያዎችን እንደምጠቀሙና የሊደርስ የሚችለውን አደጋዎችን እነደምከለከሉና እንዲጠቀሙ የምየደረግ ጥናት ለይ እንድሰተፉ ጋብዘንዎታል፡፡ በዚህ ጥናት ውስጥ ለመሳተፍ ከተስማሙ ስምምነቱን መረዳትና መስማማዎትን መግለፅ ይኖርብዎታል፡፡ ከዚህ በኃላ መረጃ ሰብሳቢው መጠይቁ ላይ ያሉትን ጥያቄዎች ይጠይቅዎታል፡፡ ስምዎትን መናገር አያስፈልግም፡፡ የሚሰጡት መረጃ ሚስጢራዊነት በጥንቃቄ ይጠበቃል፡፡

አደጋዎች ወይም አለመመቻቸት

በዚህ ጥናት በመሳተፍዎ የተወሰነ ያለመመቻቸት ስሜት ሊሰማዎት ይችላል፡፡ በተለይ የስራ ጊዜዎን እስከ 30 ደቂቃዎች ድረስ ይሻማዎታል፡፡ ነገር ግን ጥናቱ የሚሰጠውን ጥቅም ግምት ውስጥ በማስገባት እንደሚሳተፉ ተስፋ አደርጋልሁ፡፡

ጠቀሜታ

በዚህ ጥናት ላይ በመሳተፍዎ ቀጥተኛ የሆነ ጥቅም ላያገኙ ይችላሉ፡፡ ነገር ግን የርስዎ መሳትፍ ሰራተኞች በፋብርካ ዉስጥል የማከላከያ መሳረያዎችን እንደምጠቀሙና የሊደርስ የሚችለውን ስራና ስራ ነክ አደጋዎችን እነደምከለከሉና እንደይጠቀሙ ለማለየቲ ይረዳናል፡፡ በተጨማሪም ችግሮቹን ለመከላከል ስትራቴጂያዊ ርምጃዎች ላይ እንደ መነሻ ያግዘናል፡፡

የተሳትፎ ክፍያዎች ወይም ጥቅሞች

በጥናቱ በመሳተፍዎ የሚከፍሉት ክፍያ የለም፡፡

ሚስጥር ስለመጠበቅ

ለዚህ ጥናት የሚሰበሰብ መረጃ በሚስጥር ይጠበቃል፡፡ የሚሰበሰበው መጠይቅ የእርስዎ ለመሆኑ መለያ አይኖረውም፡፡ መረጃው በዋናው ተመራማሪ ፋይል ተደርጎ በቁልፍ የሚቀመጥ በመሆኑ ሌላ ሰው ሊያገኘው አይችልም፡፡

በጥናቱ ላለመሳተፍ ከፈለጉ በጥናቱ ያለመሳተፍ ሙሉ መብት አልዎት፡፡ ከመጠየቁ ውስጥ ጥቂት ጥያቄዎችን ወይም በሙሉ ያለመመለስ መብት አልዎት፡፡ ስለዚህ ጥናት ጥያቄ ካልዎት ከዚህ በታች የተጠቀሱትን ሰዎች ማነጋገር ይችላሉ፡፡

1. አቶ ተመስገን ከለዬ
   ስ.ቁ. 251-917199604
2. አቶ ሰብስቤ ታደሰ

   ስ. ቁ. +251 0912893304

3. አቶ አለምዘዉድ አሰፋ
   ስ. ቁ. +2510911568477

Annex-VII-declaration

I, the undersigned, MPH student declare that this thesis is my original work in partial fulfillment of the requirement for the degree of Master of Public health / MPH/.

Student's Name: Temesgen kelaye (BSc) ---------- ----------
Signature Date

Place of submission: Institute of Public health, College of Medicine and Health Sciences, University of Gondar.

Date of Submission: ---------- 2014 G.C

This thesis work has been submitted for examination with our approval as university advisor(s).

Advisors

Approval of University advisors. Date Signature

3. Sebsibe Tadesse (BSc, MPH) ---------- ----------
Signature Date

4. Yalemzewod Assefa(BSc, MPH) ---------- ----------
Signature Date

Annex-VIII- Assurance of investigator

The undersigned agrees to accept responsibility for the scientific, ethical and technical conduct of the research project and for provision of required progress reports as pre terms and conditions of the research and publications office of the University of Gondar.

Student's Name: Temesgen kelaye (BSc) ---------- ----------
Signature Date

Approval of University advisors

Advisors: Name

1. Sebsibe Tadesse (BSc, MPH) ---------- ----------
Signature Date

2. Yalemzewod Assefa(BSc, MPH) ---------- ----------
Signature Date